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	1.0		4.5	2.8		2.5
			5.0	3.2		2.2
				3.6		
	1.1		4.0		2.0	
					1.8	
	1.25	1.4		1.6		

MICROCOPY RESOLUTION TEST CHART

NATIONAL BUREAU OF STANDARDS 1963-A

ADA079237

A-C-B

Research Memorandum 64-7

LEVEL

IDENTIFICATION OF SELF-DESCRIPTION SCALES
FOR DIFFERENTIAL CLASSIFICATION

July 1964

USAPRO

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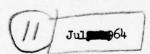(9) Research Memorandum 64-7

(6) IDENTIFICATION OF SELF-DESCRIPTION SCALES
FOR DIFFERENTIAL CLASSIFICATION

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IDENTIFICATION OF SELF-DESCRIPTION SCALES
FOR DIFFERENTIAL CLASSIFICATION

BACKGROUND

As one phase of the major research effort to develop an improved Army Classification Battery (ACB), research continues on two experimental self-description noncognitive instruments designed to contribute to differential prediction of performance in Army training programs--Forms 2 and 7 of the experimental Army Differential Aptitude Series (ADAS). Research Memorandum 58-6 (Johnson, Klieger, and Frankfeldt, 1958) describes the construction and composition of the two instruments. Currently, seven predetermined noncognitive scales are being validated for selected Army MOS and job areas as a part of the research under Project NCT a-17, "Evaluation of experimental predictor tests to supplement the ACB."

The purpose of the present project was to develop ADAS-2 and ADAS-7 empirical scales designed to differentially predict performance in a broad range of MOS in the Electronics, General Maintenance, Motor Maintenance, and Clerical occupational areas. To serve the purposes intended, each scale should (1) be effective for a substantial number of related MOS, and (2) possess differential predictive value for MOS in a given occupational area, in contrast to MOS in other occupational areas.

The present Research Memorandum describes the development of 11 new noncognitive scales for ADAS-2 and ADAS-7--five against a training criterion and six against later performance on the job.

METHOD

EXPERIMENTAL INSTRUMENTS ADAS-2 and ADAS-7

Self-Description Blank, ADAS-2 (DA PT 3391) contains 395 noncognitive job connected items grouped in nine sections. ADAS-7 (DA PT 3390) contains 210 statements of attitudes, experiences, etc., each providing for alternative responses: (A) describes me, (B) does not describe me.

The nine types of item contained in ADAS-2 are as follows:

SECTION NUMBER	ITEM NUMBERS	CONTENT AND RESPONSES
1	1-95	Attitude toward jobs, activities, etc: (L) like, (I) indifferent, (D) dislike
2	96-135	Self-evaluation of competence in certain jobs: (Y) good at, (D) don't know, (N) not good at

3	136-145	Of three activities listed, choose one judged best at: (A), (B), or (C)
4	146-160	Competence in specified classes or shop courses: (A) outstanding, (B) not outstanding, (C) did not take course
5	161-190	Statements about jobs: (A) agree, (B) disagree
6	191-215	Of three tasks listed, choose one preferred: (A), (B), or (C)
7	216-220	Of three topics listed, choose one most interesting to discuss: (A), (B), or (C)
8	221-285	Activities engaged in prior to age 18: (Y) yes, (N) no
9	286-395	Descriptive statements re attitudes, experience, etc: (Y) apply, (N) do not apply

CRITERIA

For all MOS except Automotive Maintenance Helper (630) and Basic Army Administration (710), the training criterion was final course grade--a weighted combination of written examination results and practicum evaluation.

For the research studies on Common Specialist Training Programs 630 and 710 (Helme, Denton, and Anderson, 1962; 1963), however, variations occurred in the types of evaluation submitted by the different installations supplying the samples for the study. Consequently, a converted training score was derived, applicable to all samples being combined for the MOS 630 and the MOS 710 samples of the present study. The converted score was based on the tie-back of obtained final course grades to scores achieved on a reference test (the Automotive Information Test for MOS 630 and the Verbal Test for 710).

For the follow-up studies, the criterion measure was an average of peer and supervisor on-job ratings.

SAMPLES

Data used in the present study were originally collected under two earlier projects (Helme, Fitch, and Olans, 1959):

Data collection for the evaluation of experimental tests of abilities to supplement the ACB (NCT a-12). Phase I (November 1957 - April 1958) included administration of ADAS-2 and ADAS-7 to the enlisted men slated for assignment to 37 school courses. Phase II (April - November 1958) provided additional cases required for item analysis, with concentration of cases in three job areas: electronics repair, mechanical repair, and communications-clerical. In both phases, men were tested toward the latter part of basic training after decisions had been made on their training assignments. Installations involved were Forts Dix, Jackson, Chaffee, Leonard Wood, Carson, and Ord.

The prediction of success in selected Common Specialist Training Programs (NCT a-32). During five months of 1958, ADAS-2 and ADAS-7 were administered to enlisted men assigned to two entry Common Specialist Training Programs: Automotive Maintenance Helper (MOS 630) and Basic Army Administration (MOS 710 and 711.1). The installations represented were those listed above, with the exception of Fort Dix.

On-the-job evaluations examinees were obtained by mail order.

Loss of cases during the training period and further losses during the on-the-job period required the combining of related MOS samples into MOS groups of adequate size to provide reasonably stable item indices. The resulting training and job effectiveness criterion samples are shown in Table 1. Because of the large size of the Common Specialist Program samples, they were divided into random halves which were used as separate samples. This procedure was followed with both training and job criterion samples.

RATIONALE FOR SCALE CONSTRUCTION

In developing cognitive measures for differential classification, the selection of MOS to be combined to form occupational groups is based on the job functions reflected in training for the MOS, as well as the validity of the measures. No such firm basis in available for forming occupational groupings when noncognitive measures are being developed.

The general approach in the present research was, first, to attempt to use agreement in item validity coefficients for the various MOS to determine occupational groupings. Second, a test was made of the validity generalization across the MOS within each occupational group.

This approach, however, required recognition of a basic difficulty inherent in validity generalization--any test item, if tried out on 10 different samples, is likely to show a validity coefficient for one of the samples which is significantly different from zero at .10 level even if the true validity of that item is zero. In recognition of this, no item was accepted as valid unless it had coefficients at the .10 level of

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Table 1

ADAS-2 AND ADAS-7 ITEM ANALYSIS SAMPLES

Training Samples			Job Effectiveness Samples		
MOS	N	Source	MOS	N	Source
053	283	a-12 (II)	053	51	a-12 (I+II)
223	71	a-12 (II)	220,223,225,227,240,243,244, 246,247,248,250,251,252,253, 254	153	a-12 (I+II)
230,250	63	a-12 (II)			
271,281	70	a-12 (II)	271,273,281,282,284,294,296	171	a-12 (I+II)
293	178	a-12 (II)	293	85	a-12 (I+II)
294,296	230	a-12 (II)	310,311,313	51	a-12 (I+II)
311	97	a-12 (II)	320,321,323	126	a-12 (I+II)
313	146	a-12 (II)	350,351,357,370,371,372	51	a-12 (I)
321	96	a-12 (II)	440,510,511,515,530	71	a-12 (I)
440	156	a-12 (I+II)	612	50	a-12 (II)
511	177	a-12 (I)	620,621,622,623,624,630,631, 632,633,634,635-A	142	a-32
530	104	a-12 (I+II)			
612	228	a-12 (II)	620,621,622,623,624,630,631, 632,633,634,635-B	142	a-32
630A	601	a-32	670,671,672,673,674	77	a-12 (II)
630B	601	a-32	701,703,710,711,712,713,714, 716,717,718-A	163	a-32
670,680	153	a-12 (II)			
701	58	a-12 (II)	701,703,710,711,712,713,714, 716,717,718-B	163	a-32
710,711A	646	a-32	721,723,724	71	a-12 (II)
710,711B	647	a-32	722	141	a-12 (II)
721,724	91	a-12 (II)			
722	324	a-12 (II)			
723	234	a-12 (II)			
730	141	a-12 (II)			
Total	5395		Total	1708	

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significance for a number of single MOS sufficient to reach at least the .05 level of probability of difference from zero across the total number of MOS in the occupational group. For example, in a training criterion occupational group of six MOS, the occurrence of coefficients valid at the .10 level for three single MOS yielded a probability value of .016. As will be discussed later, the lack of stability and the relative lack of differentiability among job performance criteria precluded the use of restricted occupational groupings as the basis for selecting items in job criterion scale development.

DEVELOPMENT OF TRAINING CRITERION SCALES

PRELIMINARY GROUPING OF MOS

The initial combining of MOS samples into broad occupational groups was based on the frequency with which the same ADAS-2 items were valid for certain MOS samples and not for others. For each pairing of 19 MOS samples, in turn, determination was made of the frequency of statistically significant items (.10 level) shared by both members of the pair and the significance of the deviation of these frequencies from the expected. MOS which showed definite interrelationships in shared valid items and in training content were combined into tentative occupational groupings, as follows:

Group	MOS Sample[1]
A - Electronics	053 - 223 - 230 - 294 - 311 - 313
B - Mechanical	440 - 511 - 530 - 670
C - Clerical	721 - 723 - 730 - 722 - 701
D - Electronics Operator	271 - 293
E - Heavy Construction	321 - 612

REFINEMENT OF OCCUPATIONAL GROUPS

The five tentative MOS groupings based on shared valid items were tested for (1) the degree of affinity among the MOS within a group and (2) the degree of discrimination between groups. As the first step, selection was made, for each group, of ADAS item alternatives with validity coefficients which (1) were significant at the .10 level for one or more MOS in the group, (2) were not flagrantly contradicted by any other MOS in the group, and (3) tended to differentiate that group from all other groups. In addition, consideration was given to the consistency of item content with the training content of the MOS involved. A total of 193 alternatives (from 181 items) resulted from this procedure.

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[1] Descriptive titles identifying the job functions of the MOS samples referred to by number throughout the text are shown in tables of the Appendix.

Next, for each MOS, the validity coefficients obtained on the 193 selected alternatives were coded on a 7-point scale of validity. For each group separately, an inter-r matrix was computed for validity scale values obtained on the 193 item alternatives in each MOS sample within the group.

Table 2 presents the resulting matrixes for the five occupational groups. The MOS groupings for Groups A, B, and E proved to be satisfactory, with inter-r's ranging from .22 to .53 for A, .26 to .40 for B, and an r of .44 for the two MOS samples in Group E. MOS 721 (Communications Center Operator) showed low r's (-.06 to .07) with the other MOS of Group C, and was eliminated from that group. The r of .20 between MOS 271 (Fixed Station Receiver Repairman) and 293 (Radio Relay and Carrier Operator), which comprised Group D, did not justify a separate Group D. In order to locate more satisfactory group membership for MOS 721, 271, and 293, the validity scale values obtained for these MOS were correlated with those obtained for two representative MOS in each of Groups A, B, C, and E. The obtained r's justified adding MOS 271 and 293 to Group C and the elimination of MOS 721 from further consideration (Table 3).

Table 2

RELATIONSHIPS AMONG MOS WITHIN OCCUPATIONAL GROUPS, IN TERMS
OF VALIDITY-SCALE VALUES FOR 193 SELECTED ITEM ALTERNATIVES

GROUP A – ELECTRONICS

MOS	053	223	230	294	311	313	Average
053	-	.25	.49	.43	.50	.42	.42
223		-	.22	.31	.39	.32	.30
230			-	.27	.37	.27	.32
294				-	.39	.45	.37
311					-	.53	.44
313						-	.40

GROUP B – MECHANICAL

MOS	440	511	530	670	Average
440	-	.40	.37	.33	.37
511		-	.37	.26	.34
530			-	.38	.37
670				-	.32

GROUP C – CLERICAL

MOS	721	723	730	722	701	Average
721	-	.03	.07	-.06	.03	.02
723		-	.45	.42	.31	.30
730			-	.54	.25	.28
722				-	.33	.26
701					-	.23

GROUP D – ELECTRONICS OPERATORS

MOS	293	271
293	-	.20
271		-

GROUP E – HEAVY CONSTRUCTION

MOS	321	612
321	-	.44
612		-

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Table 3

RELATIONSHIP BETWEEN MOS 271, 293, 721 AND REPRESENTATIVE MOS IN
OCCUPATIONAL GROUPS A, B, C, AND E, IN TERMS OF VALIDITY SCALE
VALUES FOR 193 SELECTED ITEM ALTERNATIVES

MOS	Group A		Group B		Group C		Group E	
	053	311	440	530	723	730	321	612
271	.26	.22	.06	.08	.30	.29	-.17	-.15
293	.22	.15	.16	.15	.26	.19	-.01	.04
721	.14	.24	.13	.15	.03	.07	.07	.03

To insure adequate discrimination among the revised occupational groups,
inter-r's of validity scale values were computed for two representative
MOS from each of the four groups (Table 4).

Table 4

INTER-R MATRIX SHOWING DIFFERENTIATION AMONG REPRESENTATIVE
GROUP SAMPLES IN TERMS OF VALIDITY SCALE VALUES FOR 193
SELECTED ITEM ALTERNATIVES

Occupational Group	MOS	A		B		C		E	
		053	311	440	530	723	730	321	612
A - Electronics	053	--	.50	.26	.34	.24	.24	-.31	-.14
	311		-	.27	.36	.05	.15	-.25	-.12
B - Mechanical	440			--	.37	.07	-.01	.06	.15
	530				-	.22	.13	-.10	-.01
C - Clerical	723					-	.45	-.07	-.19
	730						-	-.13	-.30
E - Heavy Construction	321							-	.44
	612								-

For each group, the member MOS showed lower relationship with MOS from other groups (r's from -.31 to .36) than with each other (r's from .37 to .50). Group E showed highest discrimination from other groups, with average r's of -.20 with Group A, .10 with B, and -.17 with C. Least discrimination occurred between Groups A and B (average r of .31).

Data from the Common Specialist Training Program MOS samples 630-A, 630-B (Automotive Maintenance Helper) 710-A, and 710-B (Basic Army Administration) were treated separately from the other samples because of the difference, discussed earlier, in the training criterion used for item validation. For 630 and 710, item alternatives were selected whose point biserial r's for the A and B random halves averaged .15 or higher. From the resulting 630-A and 630-B pools, items were selected to augment the Group B (Mechanical) item pool. The 710-A and 710-B items were added to the Group C (Clerical) item pool.

Final occupational groups and the MOS samples included under each were as follows:

Group	MOS
I Electronics - T	053-223-230-294-311-313
II Mechanical - T	440-511-530-670-630A-630B
III Heavy Construction - T	321-612
IV Clerical - T	271-723-730-722-701-293-710A-710B

CONSTRUCTION OF FINAL SCALES

Final pools of item alternatives significantly valid at the .10 level or better were selected for the occupational groups, using probability values as indicated below:

Group	Required Number of MOS Samples With Validities at .10 level	Probability Value
I - Electronics	3 out of the 6	.016
II - Mechanical	3 " " " 6	.016
III - Heavy Construction	2 " " " 2	.010
IV - Clerical	4 " " " 8	.005

Further refinement of the four pools resulted in the four differential training criterion scales shown in Table A-1 through A-4 of the Appendix.

An attempt to derive a "General" scale revealed that there were too few items valid across all MOS samples. Instead, item alternatives which were valid across Groups I and II and relatively unique to those groups were used to derive the Electrical-Mechanical scale shown in Table A-5 of the Appendix.

DEVELOPMENT OF JOB EFFECTIVENESS CRITERION SCALES

Attrition occurring between end of training and on-the-job assessment required further grouping of related MOS training samples in order to obtain more stable N's for 16 job effectiveness samples.

DETERMINATION OF METHOD FOR GROUPING MOS

In comparison with training criteria, job criteria for different MOS are less predictable and are less clearly differentiated from one another --factors which contribute to across-MOS instability of item validities. Thus, it was less likely that determination of which job criterion MOS samples to combine to form occupational groups could be based on the frequency with which the same items are valid for two different MOS samples-- the procedure used in forming the training criterion MOS sample group.

In recognition of the limitations inherent in item validity coefficients based on job criteria, a preliminary test was made of maximum possible validity generalization across two job criterion MOS samples by comparing the coefficients obtained on the same items in the two random halves of the MOS 630 samples (630-A and 630-B). Using the .10 level of significance, determination was made of the extent to which the set of items selected on sample 630-A corresponded to the set selected on sample 630-B. The same procedure was followed for samples 710-A and 710-B. A test of the A vs B distributions yielded contingency coefficients which were lower than would be expected from random halves: .29 for 630 A vs B and .07 for 710 A vs B.

From these results it was apparent that with job criterion MOS samples, the degree of item validity agreement between two MOS samples could not be used as a basis for forming occupational groupings. Decision was made, therefore, to rely upon the basic MOS groupings derived empirically for the occupational groups for the training criterion.

With some adjustments, required to obtain relatively stable N's, the job criterion occupational groups with the identifying MOS for the Job Criterion samples in each were set up as follows:

Group	MOS
I - Electronics - J	053-223-294 (+271)-311 (+313)
II - Mechanical - J	440 (+511, 530)-670-630A-630B-351
III - Heavy Construction - J	321-612
IV - Clerical - J	722-723-293-710 (+701)A-710 (+701)B

Insufficient cases in MOS 730 (included in training criterion Group IV) which had criterion data accounts for its omission from Job Group IV.

VALIDITY CRITERION

In recognition of the evidence cited early that for job criterion samples an item had to be valid for more than two MOS in order to promise stable validity, decision was made to require item validity at the .05 level of significance for at least 3 out of the total 16 MOS samples--a probability value of .034. Applying this validity criterion, 151 items were selected from the total of 605 ADAS-2 and ADAS-7 items.

A test was made of the maximum possible stability across samples of the selected items, again using the A and B samples of MOS 630 and of 710. For each item, the alternative with highest coefficient was used. Separate A and B tabulations were made of the validity coefficients obtained on the alternatives so selected. The tabulated A and B coefficients (in .05 intervals) were then correlated. This test was duplicated for MOS 710-A vs 710-B. The A vs B correlation coefficients obtained were .44 for MOS 630 and .15 for 710-- evidence of increased stability obtained by restricting the item pool to those items showing significant incidence of validity across the full set of MOS samples (3 out of 16). The coefficients were also based, of course, on more refined intervals.

CONSTRUCTION OF FINAL SCALES

Using the 151 items selected by applying the validity criterion decided upon (items at .05 level for 3 out of the 16 Job MOS samples), allocation to job criterion occupational group pools was made for all valid alternatives (.05 level). A value was assigned each alternative, reflecting the extent to which it was valid for all MOS in the group to which it was assigned and was less valid for MOS in other groups.

Additional refinements resulted in the selection of a total of 155 alternatives for the four occupational group pools. Within each pool, the alternatives were then classified according to the extent to which their validity was unique for their assigned group, was shared by one other group, or was shared by two others. With further refinements, final selections of 20 keyed alternatives were made for each of the four occupational groups.

Table 5 shows the number of final selections for the Job Criterion scales, classified according to their uniqueness to the occupational area scale for which they were designed. For the Electronics, Mechanical, and Clerical scales, all keyed item alternatives were acceptable only in their respective groups. Those exclusive to the Heavy Construction area were supplemented by five alternatives which were valid for both Heavy Construction and Electronics, and by six which were common to Heavy Construction and Mechanical. General Scale I selections were from item alternatives valid for both the Mechanical and Clerical areas--areas of contrasting characteristics. General Scale II alternatives were valid for three out of the four occupational areas. Tables A-6 through A-11 of the Appendix list the ADAS-2 and ADAS-7 alternatives comprising the six Job Criterion Scales, with validity data.

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Table 5

SPECIFICITY OF ITEMS SELECTED FOR JOB CRITERION SCALES

Identification of Scale	Total No. Items	Valid only for one group		Valid for two groups						Valid for three groups	
				HC-E		HC-M		M-C			
		ADAS-2	-7	-2	-7	-2	-7	-2	-7	-2	-7
Electronics - J	20	16	4								
Mechanical - J	20	20	-								
Heavy Construction - J	20	8	1	5	-	3	3				
Clerical - J	20	14	6								
General I - J	20	-	-					8	12		
General II - J	15	-	-							9	6

Identifying symbols for the Training and Job Criterion Keys are shown in Table 6.

Table 6

TRAINING AND JOB CRITERION EMPIRICAL KEYS FOR ADAS-2 AND ADAS-7

Key Title	ADAS-2 (PT 3391)		ADAS-7 (PT 3390)		Total No. Items
	TX Number	No. Items	TX Number	No. Items	
A. Training Criterion Keys					
ELECTRONICS - T	1003 b	25	1003 a	5	30
MECHANICAL - T	1004 b	19	1004 a	11	30
HEAVY CONSTRUCTION - T	1005 b	14	1005 a	16	30
CLERICAL - T	1006 b	25	1006 a	5	30
ELECTRICAL-MECHANICAL - T	1007 b	26	1007 a	4	30
B. Job Criterion Keys					
ELECTRICAL - J	1008 b	16	1008 a	4	20
MECHANICAL - J	1009	20	--	-	20
HEAVY CONSTRUCTION - J	1010 b	16	1010 a	4	20
CLERICAL - J	1011 b	14	1011 a	6	20
GENERAL I - J	1012 b	8	1012 a	12	20
GENERAL II - J	1013 b	9	1013 a	6	15

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APPENDIX

Item Validity Coefficients and Difficulty Values of Item Alternatives of Training and Job Criterion Scales.

Table A-1

EMPIRICAL TRAINING CRITERION SCALE: ELECTRONICS - T (TX 1003 a & b)

MOS Training Criterion Samples from which derived:

053 - Radio Teletype Operator
223 - Air Defense Missile Electronics Mechanic (Nike-Ajaz)
230-50 - Electronics Repairman
294 - Field Carrier Equipment Repairman; 296 - Field Radio Repairman
311 - Infantry Communications Specialist
313 - Artillery Communications Specialist

Item No.	Alt.	Item Content	Validity Coefficients & Difficulty Values (decimals omitted)													
			Average r pt bis							Average p-value						
			053	223	230	294	311	313	AV.	053	223	230	294	311	313	AV.
ADAS-2																
26	L	electronics interests	03	08	21	-03	33	22	14	53	89	78	81	63	68	72
27	L	independent worker	09	22	02	07	18	14	12	37	30	28	46	46	41	38
35	L	electronics interests	-03	24	-02	06	38	29	15	54	87	71	90	71	73	74
50	L	mechanical interests	-11	21	09	03	14	27	10	53	63	56	80	69	67	65
75	L	electronics research interests	12	26	27	08	46	31	25	54	96	73	80	65	71	73
78	L	electronics interests	05	20	05	01	22	28	14	72	79	76	92	81	74	79
86	L	intellectual curiosity	08	03	-00	13	19	18	10	31	31	24	33	25	27	28
95	L	electrical interests	11	09	20	12	34.	24	18	39	80	59	73	57	60	61
99	Y	mathematical reasoning skills	24	05	25	13	28	16	18	36	86	57	54	37	38	51
108	Y	electrical skills	08	17	01	13	30	31	17	14	31	25	37	42	38	31

Table A-1 (continued)

Item No.	Alt.	Item Content	Average r pt bis							Average p-value						
			053	223	230	294	311	313	AV.	053	223	230	294	311	313	AV.
ADAS-2																
118	Y	electrical skills	11	12	03	19	35	28	18	22	46	33	53	52	49	42
136	B	mathematical vs mechanical or verbal	12	22	21	08	17	07	14	31	55	43	40	26	27	37
140	B	mathematical vs social or clerical	17	22	36	36	18	25	26	24	56	28	40	28	32	35
143	A	electrical vs verbal or camping skills	-02	20	02	02	32	16	12	39	65	62	73	67	66	62
157	A	good in electric shop work	09	20	06	05	26	20	14	09	08	06	24	24	17	15
216	B	electronics vs automotive or commerical	12	12	20	17	25	12	16	35	49	41	60	44	44	46
267	N	no early experience with auto-mechanics	10	05	07	15	14	15	11	60	39	48	42	40	49	46
269	Y	early scientific experience	25	44	31	18	32	20	28	39	82	67	59	41	42	55
304	N	electronics experience	06	17	07	16	20	21	14	67	77	75	75	62	74	72
306	Y	teaching interests	06	28	13	10	21	16	16	47	46	41	37	35	41	41
330	Y	clerical experience	18	06	36	02	30	20	19	59	62	41	54	52	58	54
338	Y	dislikes uncleanliness	19	19	05	04	18	23	15	68	70	70	68	72	68	69
354	N	white collar vs laborer job interests	16	-05	27	08	16	23	14	70	63	51	56	58	61	60
355	N	self-assurance	13	24	24	07	18	14	17	72	73	73	74	68	67	71
361	Y	good physical science student	06	35	11	29	46	24	25	16	42	24	30	18	18	25
ADAS-7																
17	B	no self-pity	10	03	18	09	17	15	12	92	87	90	91	92	92	91
73	B	no special interest in action stories	12	-01	22	01	18	18	12	59	55	60	63	64	62	60
118	A	no enemies	20	24	-05	09	23	16	14	86	89	84	88	87	88	88
136	B	pride in uniform	16	25	17	11	-03	09	12	74	82	76	73	62	75	74
188	A	good reasoning ability	19	30	28	14	13	14	20	60	68	54	56	49	54	57

Table A-2

EMPIRICAL TRAINING CRITERION SCALE: MECHANICAL - I (TX 1004 a & b)

MOS Training Criterion Samples from which derived:

440 - Metal Work Helper
511 - Carpenter
530 - Chemical Warfare Helper
670 - Aircraft Maintenance Crewman; 680 - Aircraft Components Repair Helper
630 A & B - Automotive Maintenance & Repair

Item No.	Alt.	Item Content	Validity Coefficients & Difficulty Values (decimals omitted)													
			Average r pt bis							Average p-values						
			440	511	530	670	630A	630B	AV.	440	511	530	670	630A	630B	AV.
ADAS-2																
19	L	metal work interests	04	17	19	00	17	13	12	62	44	36	56	53	53	51
30	L	architectural interests	14	17	-06	17	08	09	10	49	67	41	44	47	40	48
55	L	electronics skills	10	14	22	19	10	11	14	36	39	51	50	46	45	44
83	L	likes mathematical precision	18	15	16	19	13	09	15	42	65	57	54	44	38	50
125	Y	mechanical skills	19	02	12	10	20	15	13	51	37	46	67	59	57	53
130	Y	mechanical skills	21	05	17	30	27	23	20	58	43	40	67	61	59	55
203	B	research vs clerical or mechanical	16	18	33	14	-01	-04	13	31	36	38	29	38	33	33
204	C	engineering vs construction or clerical	20	23	20	20	05	05	16	32	41	48	36	23	24	34
251	Y	early experience with illustration	20	18	28	08	09	10	16	67	73	81	69	66		70
259	Y	early metal work experience	15	14	16	04	12	16	13	30	36	53	31	60	61	45
273	Y	early mechanical experience	22	14	14	21	22	16	18	70	64	62	75	72	71	69
276	Y	early experience with blueprints	38	26	19	23	21	23	25	62	73	53	80	65	59	65

Table A-2 (continued)

Item		Item Content	Validity Coefficients & Difficulty Values (decimals omitted)													
			Average r pt bis							Average p-values						
No.	Alt.		440	511	530	670	630A	630B	AV.	440	511	530	670	630A	630B	AV.
ADAS-2																
296	Y	auto-mechanics experience	19	05	08	22	08	20	14	68	54	42	69	68	74	62
307	Y	electrical experience	20	04	11	17	08	07	11	47	58	57	52	55	57	54
321	Y	independent thinker	26	15	23	06	05	10	14	70	77	82	84	77	77	78
337	N	no interest in construction	16	14	24	21	05	06	14	49	42	60	66	58	55	55
372	Y	conforms to routine	23	13	13	18	15	12	17	59	59	68	75	67	67	66
377	Y	conscientious	29	25	18	14	14	19	20	85	81	82	95	88	90	87
390	Y	prefers practical to theoretical studies	18	09	-02	-12	16	15	07	58	55	36	67	60	64	57
ADAS-7																
119	B	not self-pitying	18	14	18	08	14	16	15	62	69	62	79	68	70	68
128	B	enjoys games of chance	14	16	07	26	00	11	12	64	68	71	72	68	72	69
131	B	not excitable	23	-00	18	14	06	21	14	80	83	77	82	82	82	81
143	A	steady worker	24	33	34	12	22	11	23	76	67	72	84	79	80	76
146	B	takes the initiative	23	25	19	12	14	15	18	79	77	83	82	82	84	81
157	B	feels civic responsibility	23	15	29	26	14	18	21	57	65	66	80	66	66	67
162	B	fast worker	27	14	27	16	19	15	20	76	73	79	88	78	81	79
170	A	energetic	46	17	24	15	22	21	24	76	70	74	92	77	79	78
190	B	no aviation experience	33	14	24	07	13	04	16	90	85	88	95	91	94	90
195	A	has out-door skills	26	18	14	-00	09	04	12	54	55	57	78	62	67	62
208	A	alert thinker	15	07	29	15	10	11	14	60	53	54	73	60	69	62

Table A-3

EMPIRICAL TRAINING CRITERION SCALE: HEAVY CONSTRUCTION - I (TX 1005 a & b)

MOS Training Criterion Samples from which derived:

321 - Lineman
612 - Construction Machine Operator

| Item | | Validity Coefficients & Difficulty Values (decimals omitted) | | | | | |
| No. Alt. | Item Content | Average r pt bis | | | Average p-value | | |
		321	612	AV.	321	612	AV.
ADAS-2							
17 L	likes powerful machinery	18	25	22	36	86	61
47 L	not sensitive to noise	13	21	16	08	39	24
68 L	likes to run powerful equipment	11	17	14	36	86	61
100 Y	mechanical interests	11	30	20	20	45	32
101 Y	mechanical interests	08	19	14	45	64	54
105 Y	auto-mechanics skills	22	29	26	47	72	60
112 Y	mechanical skills	18	15	16	77	92	84
113 Y	likes to operate heavy equipment	08	34	21	56	68	62
229 Y	early auto-mechanics experience	22	25	24	70	82	76
231 Y	early experience as laborer	21	17	19	69	82	76
291 Y	auto-mechanics skills	22	23	22	85	90	88
296 Y	auto-mechanics experience	08	22	15	51	69	60

Table A-3 (continued)

| Item No. Alt. | Item Content | Validity Coefficients & Difficulty Values (decimals omitted) | | | | | |
| | | Average r pt bis | | | Average p-value | | |
		321	612	AV.	321	612	AV.
ADAS-2							
349 Y	mechanical interests	18	13	16	72	81	76
353 Y	good reasoning ability	19	11	15	27	36	32
ADAS-7							
1 B	energetic	26	14	20	73	81	77
21 A	life-long interest in machinery	10	21	16	64	82	73
24 A	automotive interests	22	17	20	52	71	62
42 A	mechanical skills	34	19	26	71	76	74
69 B	not a day-dreamer	32	19	26	73	78	76
70 B	self-esteem	29	16	22	69	76	72
74 A	mechanical skills	26	20	23	58	79	68
99 B	amenable to school discipline	19	14	16	57	61	59
112 B	not averse to over-time work	23	18	20	76	87	82
118 A	no enemies	26	20	23	74	76	75
121 A	happy outlook	24	11	18	88	91	90
128 B	enjoys games of chance	16	25	20	66	74	70
143 A	steady worker	32	27	30	74	82	78
146 B	takes the initiative	29	12	20	76	77	76
164 A	self-confident	20	13	16	43	54	48
180 B	good metabolism	17	28	22	69	70	70

Table A-4

EMPIRICAL TRAINING CRITERION SCALE: CLERICAL - T (TX 1006 a & b)

MOS Training Criterion Samples from which derived:

701 - Information Specialist   271 - Fixed Station Receiver Repairman; 281 - Microwave Radio Equipment Repairman
722 - Cryptographer   293 - Radio Relay and Carrier Operator
723 - Teletype Operator   710, 11A & B - Clerical and Administrative
730 - Finance Clerk

Item No. Alt.	Item Content	Validity Coefficients & Difficulty Values (decimals omitted)																	
		Average r pt bis									Average p-value								
		271	723	730	722	701	293	710A	710B	AV	271	723	730	722	701	293	710A	710B	AV
ADAS-2																			
15 D	no interest in manufacturing	15	09	15	10	19	01	16	22	13	60	52	70	64	86	56	65	58	64
92 D	dislikes monotony	04	15	16	09	08	14	14	19	12	38	44	62	51	64	32	52	49	49
98 Y	clerical-minded	31	14	18	18	14	20	20	25	20	41	43	88	69	79	36	68	68	62
101 N	not mechanical-minded	-12	21	17	06	26	06	10	20	12	01	21	44	25	50	14	35	35	28
138 C	writing vs mech or graphics	09	15	10	13	24	-02	13	19	13	07	17	39	26	59	11	35	31	28
140 B	math vs social or clerical	14	21	17	01	11	00	22	17	13	33	21	48	28	16	29	26	24	28
145 B	clerical vs autmv or elec	10	16	20	13	26	14	20	28	18	08	27	77	52	91	12	64	60	49
150 A	good social science student	25	06	16	15	34	19	09	17	18	46	44	60	50	74	40	55	55	53
154 A	good mathematics student	10	05	19	01	15	29	18	23	15	27	15	29	30	19	21	26	23	24
155 A	good in commercial subjects	24	21	11	37	37	12	12	21	21	16	25	65	40	22	12	45	41	33
177 D	thinks clerks smarter than mechanics	10	14	20	14	-07	-09	14	15	09	67	65	81	72	88	55	71	71	71

Table A-4 (continued)

Item No.	Alt.	Item Content	Validity Coefficients & Difficulty Values (decimals omitted)																	
			Average r pt bis									Average p-value								
			271	723	730	722	701	293	710A	710B	AV	271	723	730	722	701	293	710A	710B	AV
ADAS-2																				
184	A	literary sophistication	16	23	25	02	26	19	23	26	20	56	36	66	59	78	37	54	53	55
198	A	clerical vs mech or elct	05	24	24	14	31	02	15	22	17	06	23	84	46	78	11	68	64	48
205	C	clerical vs autmv or elct	-06	22	16	14	24	01	11	15	12	06	24	86	44	66	16	65	62	46
211	C	commercial vs mech or elct	12	22	10	17	15	12	18	22	16	03	24	86	50	59	12	63	64	45
240	Y	early clerical experience	31	-01	14	13	00	05	10	13	11	20	20	52	30	33	15	38	36	30
249	Y	early commercial experience	-09	23	19	05	11	26	21	24	15	66	51	86	68	67	47	64	62	64
261	N	no early out-door skills	30	18	16	-07	44	11	13	21	18	61	61	74	74	76	68	70	70	69
262	N	no early expc in auto-mech	24	18	15	02	02	00	16	19	12	17	33	46	32	35	21	47	43	34
263	Y	early clerical experience	14	13	15	03	04	-04	07	15	08	61	57	84	72	57	56	66	69	65
275	Y	early typing experience	25	11	00	46	08	14	04	11	15	26	34	58	50	53	29	49	45	43
278	Y	early graphic arts experience	19	24	15	04	20	02	24	30	17	67	38	66	63	69	38	54	50	56
296	N	no auto-mechanics experience	-13	12	15	07	09	-09	18	21	08	53	67	78	59	84	51	75	70	67
344	N	no knowledge of latest models	-01	16	17	12	17	-03	20	20	12	44	56	77	69	86	49	72	71	66
390	N	prefers theory to shop crs	14	15	16	14	36	08	24	26	19	51	51	85	73	72	44	65	68	64
ADAS-7																				
9	A	self-assured	19	10	17	08	30	04	10	16	14	76	77	87	83	76	75	84	82	80
21	B	no early interest in machinery	-14	13	14	12	-01	-06	14	22	07	23	50	72	58	81	34	68	64	56
62	B	no early interest in mech	-06	06	04	14	29	-04	16	15	09	23	58	79	60	84	32	70	66	59
71	B	does not avoid fights	12	19	32	10	13	09	14	11	15	20	22	28	33	45	24	28	28	28
86	A	socially reticent	23	12	16	-01	15	02	07	03	10	20	16	17	12	17	19	13	15	16

Table A-5

EMPIRICAL TRAINING CRITERION SCALE: ELECTRICAL-MECHANICAL - T (TX 1007 a & b)

MOS Training Criterion Samples from which derived:

The 12 Training Samples used for the ELECTRICAL and MECHANICAL Keys

Item No. Alt.	Item Content	Validity Coefficients & Difficulty Values (decimals omitted)					
		Average r pt bis			Average p-value		
		ELEC	MECH	EL-MECH	ELEC	MECH	EL-MECH
ADAS-2							
12 L	air combat oriented	12	16	14	75	57	66
16 L	verbally facile	11	20	16	72	51	62
44 L	civic responsibility	06	08	07	20	13	16
64 L	interest in scientific discoveries	18	14	16	78	56	67
85 L	electronics interests	18	14	16	78	46	62
94 L	likes mathematical precision	15	22	18	79	58	68
107 Y	mathematical skills	26	19	22	57	26	42
116 Y	reasoning ability	19	10	14	18	07	12
154 A	good mathematics student	28	21	24	32	12	22
158 A	good biological science student	14	15	14	28	16	22
159 A	good physical sciences student	22	14	18	26	09	18
194 A	science vs verbal or mechanical	25	16	20	49	17	33

Table A-5 (continued)

| Item No. Alt. | Item Content | Validity Coefficients & Difficulty Values (decimals omitted) | | | | | |
| | | Average r pt bis | | | Average p-value | | |
		ELEC	MECH	EL-MECH	ELEC	MECH	EL-MECH
ADAS-2							
201 A	electronics vs automotive or salesmanship	16	11	14	64	21	42
202 C	electronics vs transportation or printing	12	08	10	66	27	47
209 B	physical science vs commercial or mechanical	22	13	18	45	17	31
210 C	science vs clerical or mechanical	21	14	18	41	16	28
213 B	mathematical vs automotive or clerical	21	13	17	50	24	37
228 Y	early experience with graphic arts	16	18	17	21	26	24
236 Y	early mechanical experience	15	15	15	79	72	76
249 Y	early commercial experience	15	15	30	59	40	50
278 Y	early graphic arts experience	22	21	22	58	28	43
284 Y	early electrical-mechanical experience	08	16	12	72	58	65
324 N	electrical experience	17	20	18	82	72	77
340 N	not mechanical	18	15	16	83	40	62
350 Y	mathematical interests	19	17	18	78	59	68
392 N	electrical interests	22	14	18	78	59	68
ADAS-7							
42 A	mechanical skills	11	17	14	86	76	81
62 A	life-long mechanical interests	06	20	13	67	71	69
181 B	self-determining	15	15	15	73	53	63
194 B	not wedded to routine	06	17	12	72	55	64

Table A-6

EMPIRICAL JOB CRITERION SCALE: ELECTRONICS - J (TX 1008 a & b)

MOS Job Criterion Samples from which derived:

053 - Radio Teletype Operator
223,5,7 - Air Defense Missile Mechics; 230-250 - Electronics Repairman
294,6 - Fixed Communications Equip Repair; 271,3 - Fixed Station Facilities Repair and Control;
281,2,4, - Microwave Radio, Radio Repair; Aviation Electronic Equipment Repair
311,3 - Infantry & Artillery Communications Specialists

Item No.	Alt.	Item Content	Validity Coefficients & Difficulty Values (decimals omitted)									
			Average r pt bis					Average p-value				
			053	223	294	311	Av.	053	223	294	311	Av.
ADAS-2												
11	L	ground combat oriented	30	01	-11	-12	02	20	33	20	22	24
38	L	social service-minded	26	-14	09	07	07	78	74	75	80	77
59	D	dislikes driving through mud	22	18	-05	05	10	31	23	31	27	28
73	L	electronics interests	05	06	10	17	07	53	70	82	74	70
117	Y	likes orderly procedure	32	-03	02	01	08	33	27	34	37	33
119	N	not orderly	-16	08	18	-18	-02	20	31	30	27	27
132	N	not clerical-minded	-03	01	16	-24	-03	16	17	16	12	15
140	C	clerical vs social or mathematical	13	02	06	30	13	45	25	38	35	36
144	A	mathematical vs mechanical or clerical	-02	09	01	29	09	35	33	26	29	31
145	C	electrical vs clerical or automotive	11	18	02	-07	06	39	65	78	53	59
157	A	good in electric shop work	29	-01	03	03	08	10	17	24	25	19
184	D	lacks literary sophistication	24	-04	12	31	16	53	33	42	39	42
220	B	electronics vs automotive or sports	-03	17	-05	-06	01	43	56	65	53	54
250	N	no early experience in photography	02	-09	19	-07	01	31	27	44	35	34
294	Y	no special interest in action stories	-06	02	19	01	04	41	24	26	27	30
347	Y	automotive rather than electrical	01	-06	18	17	08	27	18	16	27	22
ADAS-7												
14	B	no interest in big machinery	13	03	17	-08	06	65	63	58	47	58
157	A	lacks civic responsibility	-24	-04	17	18	02	18	18	24	16	19
200	A	lacks nervous stamina	-12	02	04	30	06	06	03	07	08	06
204	A	has/gambled never	30	01	04	12	12	18	20	16	22	19

Table A-7

EMPIRICAL JOB CRITERION SCALE: MECHANICAL - J (TX 1009)

MOS Job Criterion Samples from which derived:

351 - Power Generation Specialist; 370-2 Ballistic Missile Repairman
440 - Metal Work Helper; 511 - Carpenter; 515 - Pipeline Specialist; 530 - Chemical Warfare Helper
670-4 - Aircraft Maintenance Crewman
630-5, A & B - Automotive Maintenance & Repair; 622 - Engineer Equipment Repair

Item No.	Alt.	Item Content	Validity Coefficients (decimals omitted) Average r pt bis						Difficulty Values Average p-value					
			351	440	670	630A	630B	AV.	351	440	670	630A	630B	AV.
ADAS-2														
19	L	metal work interests	-12	11	08	17	28	10	49	41	66	52	62	54
22	D	sensitivity to noise	-22	37	29	04	16	13	39	46	53	54	51	49
24	L	skillful driver	08	06	09	22	15	12	61	58	58	68	73	64
28	D	carefree	-20	-05	24	10	17	05	72	77	70	73	71	73
114	Y	metal work interests	-02	-02	32	-08	09	06	43	45	56	46	45	47
119	Y	likes orderliness	-15	01	11	-10	19	01	61	55	58	55	55	57
136	A	mechanical vs mathematical or verbal	32	-21	-02	09	30	10	37	51	71	72	69	60
144	B	mechanical vs mathematical or clerical	-00	03	08	18	12	08	49	62	69	76	70	65
145	A	automotive vs clerical or electrical	-09	24	03	12	30	12	35	58	53	62	62	54
187	A	clerical knowledge	32	-21	-03	-07	15	03	57	69	60	59	62	61
196	C	science vs transportation or art	-16	24	05	-08	-05	00	53	39	32	19	16	29
206	C	services vs mathematical or social science	17	07	-05	10	24	11	39	65	69	73	70	63
244	Y	early automotive experience	-08	01	-17	17	16	02	41	56	69	66	68	60
290	Y	good at home repairs	-12	-12	16	23	06	04	69	76	88	82	83	80
324	N	electrical experience	07	20	16	21	22	17	69	69	82	72	73	73
344	Y	knows about latest models	14	02	-07	13	30	10	45	46	70	69	70	60
355	N	self-assurance	-08	-06	09	-04	23	03	67	59	58	60	66	62
367	Y	self-assurance	-08	21	01	20	17	10	90	84	31	86	82	87
368	N	prefers working for the military	-06	13	25	-14	01	04	53	45	52	48	36	47
387	N	doesn't mind dirty jobs	10	10	25	17	22	17	55	60	74	72	64	65

Table A-8

EMPIRICAL JOB CRITERION SCALE: HEAVY CONSTRUCTION - J (TX 1010 a & b)

MOS Job Criterion Samples from which derived:

321 - Lineman; 323 - Telephone Installer Repairman
612 - Construction Machine Operator

Item No.	Alt.	Item Content	Validity Coefficients & Difficulty Values (decimals omitted)					
			Average r pt bis			Average p-value		
			321	612	AV.	321	612	AV.
ADAS-2								
42	D	not a gambler	32	01	16[a]	13	08	10
45	L	heavy-construction interests	21	15	18	58	63	61
59	L	skillful driver	04	30	17[b]	29	50	40
67	D	dislikes frustrations in driving	20	-04	08[a]	25	28	27
87	L	big construction interests	20	05	12	25	56	41
113	Y	likes to operate heavy equipment	30	34	32[b]	54	70	62
130	Y	mechanical skills	29	08	18[b]	36	52	44
153	B	not very good literature student	21	02	11[a]	52	64	58
156	B	not very good in mechanical shop work	20	16	18	16	10	13
159	B	not very good in physical sciences	20	02	11	30	24	27
196	A	transportation vs art or science	18	13	15	47	88	67
344	N	no knowledge of latest models	02	18	10[a]	46	42	44
368	Y	prefers working as a civilian	10	19	14[a]	48	52	50
379	Y	vindictive	10	19	14	20	10	15
389	N	not a day-dreamer	21	-27	-03	79	82	81
390	Y	prefers practical to theoretical studies	19	-04	07	52	48	50
ADAS-7								
14	A	likes big machinery	21	04	13[b]	47	45	46
157	B	feels civic responsibility	-04	26	11[b]	64	68	66
160	A	acts in emergency	18	23	20	46	36	41
193	B	dislikes pets	-02	30	14[b]	16	12	14

[a] plus comparable values for ELECTRONIC MOS groups

[b] plus comparable values for MECHANICS MOS groups

Table A-9

EMPIRICAL JOB CRITERION SCALE: CLERICAL -- J (TX 1011 a & b)

MOS Job Criterion Samples from which derived:

293 - Radio Relay & Carrier Operator   722/723 - Communications Center Specialist; 724 - Switchboard Operator
722 - Cryptographer   710-2, 713-4, 701-3, A & B - Clerical and Administrative

Item			Validity Coefficients & Difficulty Values (decimals omitted)											
			Average r pt bis						Average p-value					
No.	Alt.	Item Content	293	722	723	710A	710B	AV.	293	722	723	710A	710B	AV.
ADAS-2														
5	L	clerical-minded	11	21	02	10	04	10	36	50	44	61	74	53
54	L	curiosity for strange customs	-04	01	24	-02	15	06	34	62	52	65	63	55
94	L	likes mathematical precision	22	-04	09	00	-02	05	65	72	58	45	52	58
98	Y	clerical-minded	30	04	15	22	00	14	36	74	49	75	68	60
99	Y	mathematical reasoning skills	16	01	-07	19	-02	05	27	42	41	37	37	37
140	B	mathematical vs social or clerical	02	03	-14	18	-01	02	18	39	15	26	19	23
154	A	good mathematics student	00	17	09	24	08	12	12	31	17	27	20	21
157	C	no electronics instruction	22	23	-02	06	-01	09	75	84	82	85	89	83
294	N	interest in action stories	05	02	-02	14	22	08	80	73	66	67	70	71
329	N	articulate	22	-06	21	-07	02	06	34	54	51	45	55	48
346	N	not a classicist	08	12	11	07	17	11	86	96	90	90	91	91
347	N	electrical rather than automotive	17	13	-01	02	17	09	66	63	73	52	55	62
361	Y	good physical science student	11	06	10	16	-06	08	13	24	21	15	20	19
379	N	not vindictive	00	23	16	04	-01	08	70	82	69	75	82	76
ADAS-7														
20	B	not superstitious	36	-02	06	17	-13	09	75	84	70	67	72	74
119	B	not self-pitying	10	15	31	02	05	13	84	95	84	85	84	86
170	A	energetic	03	00	-04	18	11	06	82	96	89	91	94	90
181	B	self-determining	12	05	36	06	02	12	54	71	69	75	77	69
187	B	not scary	04	-04	06	10	21	08	85	89	89	92	88	88
193	A	likes pets	-02	-04	27	01	11	07	81	90	87	83	85	85

Table A-10

EMPIRICAL JOB CRITERION SCALE: GENERAL I - J (TX 1012 a & b)

MOS Job Criterion Samples from which derived:

All 16

Item			Validity Coefficients & Difficulty Values (decimals omitted)									
			Average r pt bis					Average p-value				
No.	Alt.	Item Content	ELEC	MECH	H.C.	CLER	AV.	ELEC	MECH	H.C.	CLER	AV.
ADAS-2												
30	L	architectural interests	04	03	11	05	06	54	49	49	43	49
90	L	electrical interests	02	10	17	-04	06	57	53	45	31	46
184	A	has literary sophistication	-14	08	09	10	03	55	33	29	50	42
220	C	automotive vs sports or electronics	01	07	-06	03	01	24	70	56	23	43
250	Y	early photography experience	-02	00	-08	09	00	64	55	51	54	56
270	N	no early music participation	05	06	-01	-03	02	56	56	49	50	53
286	N	automotive interests	-09	09	03	08	03	81	77	68	72	74
365	Y	electrical interests	01	11	-09	02	02	62	40	45	42	47
ADAS-7												
1	B	energetic	08	00	21	08	09	84	78	76	78	79
6	B	self-determining	05	07	-09	17	05	94	88	91	91	91
12	B	not anxious	02	07	15	08	08	66	50	52	55	56
65	B	not self-inflated	-07	12	-06	13	03	93	85	89	89	89
101	B	not a woman-hater	-04	19	00	16	08	94	87	81	91	88
112	B	not averse to over-time work	-05	10	11	06	06	90	86	86	87	87
137	B	'faces the music'	09	04	-09	15	05	51	46	44	53	48
143	A	steady worker	-02	14	-05	07	03	86	78	80	82	81
160	B	thinks in emergency situations	-03	06	-19	10	-01	70	60	56	64	63
177	B	not disturbed by dirt	-04	12	03	08	05	69	66	67	57	65
200	B	has nervous stamina	01	06	-03	09	03	91	84	86	90	88
204	B	has gambled	-06	02	04	04	01	78	72	68	79	74

Table A-11

EMPIRICAL JOB CRITERION SCALE: GENERAL II - Y (TX 1012 a & b)

MOS Job Criterion Samples from which derived:

All 16

Item			Validity Coefficients & Difficulty Values (decimals omitted)									
			Average r pt bis					Average p-value				
No. Alt.		Item Content	ELEC	MECH	H.C.	CLER	AV.	ELEC	MECH	H.C.	CLER	AV.
ADAS-2												
100	Y	mechanical interests	12	12	07	12	11	37	42	38	22	35
105	Y	auto-mechanics skills	05	06	20	01	08	60	74	63	42	60
110	Y	mechanical-minded	05	11	10	00	06	53	55	59	40	52
112	Y	mechanical skills	03	09	11	07	08	92	90	88	79	88
125	Y	mechanical skills	-02	05	06	08	04	63	60	51	36	53
131	Y	mechanical skills	02	03	20	10	09	79	84	78	60	75
203	C	mechanical vs research or clerical	04	18	12	07	10	50	58	55	35	49
272	Y	early auto-mechanics experience	-02	01	11	06	04	43	68	56	30	49
339	Y	dislikes disorder	11	04	13	14	10	80	67	64	78	72
ADAS-7												
34	B	not a rapid talker	07	08	19	10	11	79	77	83	71	78
46	B	responsibility for own acts	06	12	07	07	08	81	78	78	81	80
82	A	can maneuver people	10	04	-02	03	04	71	59	55	65	63
90	B	self-possessed	01	00	09	06	04	87	88	85	88	87
118	A	no enemies	-02	16	11	13	09	87	72	74	81	78
179	A	healthy	00	04	01	13	04	89	85	85	89	87